L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:123106 CAPLUS <<LOGINID::20070313>>
DN 141:324459
TI Synthesis of mesoporous molecular sieves with secondary building units of Y zeolite by using surfactants in low concentration as template
AU Liu, Su; Kong, Ling-dong; He, A-di; Li, Quan-zhi
CS Department of Environmental Science and Engineering, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Fudan Xuebao, Ziran Kexueban (2003), 42(6), 1003-1006
CODEN: FHPTAY; ISSN: 0427-7104
PB Fudan Daxue Chubanshe
DT Journal
LA Chinese
AB Mesoporous aluminosilicates with the structure of MCM-41 have been synthesized in alkaline situation, by using the mixture of cationic and anionic surfactants in very low concentration (xsurf/xSiO2 = 0.07) as template and the get containing secondary building units of Y zeolite as precursors. XRD, FT-IR and N2 adsorption and desorption isotherms prove that this material has ordered hexagonal structure with Y zeolite secondary unit in its pore walls, which are thicker than the walls of MCM-41 materials synthesized by normal hydrothermal ways. SEM image shows a very unusual net-like morphol. of the material, different from the common loose shape of MCM-41. After being treated in 100% water vapor at 600° for 10 h, the structure of mesopore can still be sustained, showing high hydrothermal stability.

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:44784 CAPLUS <<LOGINID::20070313>>
DN 136:237362
TI Controlled Solubilization of Toluene by Silicate-Catanionic Surfactant Mesophases as Studied by in Situ and ex Situ XRD
AU Lind, Anna; Andersson, Jenny; Karlsson, Stefan; Aagren, Patrik; Bussian, Patrick; Amenitsch, Heinz; Linden, Mika
CS Department of Physical Chemistry, Aabo Akademi University, Turku, FIN-20500, Finland
SO Langmuir (2002), 18(4), 1380-1385
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB Mesoscopically ordered silicate-surfactant composite materials of the M41S type synthesized in the presence of a swollen agent were characterized by in situ and ex situ x-ray diffraction anal. The key feature of the room-temperature synthesis is the use of a mixture of cationic and anionic surfactants as structure-directing agents. The lower interfacial charge d. of the mixed surfactant aggregates stabilizes structures of lower interfacial curvature and therefore facilitates a more controlled solubilization of organic swelling agents. An increased solubilization capacity of the catanionic surfactant-silicate mesophase was observed close to an anionic/cationic surfactant ratio corresponding to a transition to the lamellar phase in the absence of toluene. In the presence of toluene, the catanionic template stabilizes microemulsion droplets that serve as building blocks for the final material. However, a fair amount of organic compound is solubilized in the SiO2-catanionic surfactant composite after the mesophase is formed. Although the present communication concerns mesoporous SiO2, the concept is a general one and may give nonsiliceous large-pore materials.

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 NEWS IPC8      For general information regarding STN implementation of IPC 8
 NEWS X25       X.25 communication option no longer available

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FILE LAST UPDATED: 12 Mar 2007  (20070312/ED)

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=> s anionic surfactant
        119969 ANIONIC
           259 ANIONICS
        120072 ANIONIC
                  (ANIONIC OR ANIONICS)
        189081 SURFACTANT
        169428 SURFACTANTS
        240370 SURFACTANT
                  (SURFACTANT OR SURFACTANTS)
L1       20975 ANIONIC SURFACTANT
                  (ANIONIC(W)SURFACTANT)

=> s silicate monomer
        194501 SILICATE
         63951 SILICATES
        223364 SILICATE
                  (SILICATE OR SILICATES)
        192326 MONOMER
        154804 MONOMERS
        299813 MONOMER
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                (MONOMER OR MONOMERS)
L2          43 SILICATE MONOMER
                (SILICATE(W)MONOMER)

=> s basic silane
        396154 BASIC
          3215 BASICS
        399019 BASIC
                (BASIC OR BASICS)
         86490 SILANE
         33354 SILANES
        100486 SILANE
                (SILANE OR SILANES)
L3          13 BASIC SILANE
                (BASIC(W)SILANE)

=> s L2 and L3
L4           2 L2 AND L3

=> s L4 and L1
L5           2 L4 AND L1

=> d L2 bib abs

L2   ANSWER 1 OF 43  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:198261  CAPLUS
TI   Mesoporous silica and method for the production
IN   Takahashi, Shun; Sakamoto, Kazutami; Hiwatari, Kouzou
PA   Shiseido Co., Ltd., Japan
SO   PCT Int. Appl., 37pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     --------------       ----   --------    --------------------     --------
PI   WO 2007020894         A1    20070222    WO 2006-JP315949         20060811
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR,
             KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW,
             MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC,
             SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
             UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     JP 2007045692         A     20070222    JP 2005-234777           20050812
PRAI JP 2005-234777        A     20050812
     JP 2005-344421        A     20051129
AB   The method is performed under electrolyte-free conditions by using a
     surfactant aggregate structure as a template to produce mesoporous silica
     having a novel geometrical structure.  The mesoporous silica is produced
     under electrolyte-free conditions by reacting a nonionic surfactant with a
     water-soluble silicate monomer having a specific
     structure under neutral conditions.  A sheet-like mesoporous silica is
     produced by using a nonionic surfactant forming a ribbon phase or nematic
     phase at appropriate temperature ranges and concentration ranges when
dissolved in
     water.
RE.CNT  9     THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT
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=> d L5 1-2 bib abs

L5   ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2005:1129083  CAPLUS
DN   143:393066
TI   Oral adsorbents for the treatment of high-phosphorous blood disease
IN   Imada, Tomoyuki; Sakamoto, Kazutami; Tatsumi, Takashi; Matsutani, Naomi;
     Takayanagi, Hiroshi
PA   Ajinomoto Co., Inc., Japan
SO   Jpn. Kokai Tokkyo Koho, 6 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   JP 2005289853        A     20051020    JP 2004-105257          20040331
PRAI JP 2004-105257             20040331
AB   Mesoporous silica is orally administered to adsorb phosphoric acid for the
     treatment of high-phosphorous blood disease.  The mesoporous silica is
     produced from an anionic surfactant, a
     silicate monomer, and a basic silane
     .

L5   ANSWER 2 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2004:1054452  CAPLUS
DN   142:40845
TI   method to produce mesoporous silica
IN   Tatsumi, Takashi; Yoshitake, Hideaki; Yokoi, Toshiyuki; Che, Shu-nai;
     Sakamoto, Kazutami
PA   Ajinomoto Co., Inc., Japan
SO   Jpn. Kokai Tokkyo Koho, 16 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.          KIND   DATE        APPLICATION NO.         DATE
     --------------      ----   --------    --------------------    --------
PI   JP 2004345895        A     20041209    JP 2003-144187          20030521
     US 2004267038        A1    20041230    US 2003-716427          20031120
PRAI JP 2003-144187       A     20030521
AB   The mesoporous SiO2 is produced by mixing an anionic
     surfactant, a silicate monomer, and a
     basic silane having a general formula of
     (R1O)3Si-X-NR2R3, where R1-3 are linear- or branched-chain alkyl or H, and
     X is linear- or branched-chain alkylene.  The method synthesizes
     mesoporous SiO2 having high structural order utilizing the anionic
     surfactant micelles.


=> s MCM-41
         10526 MCM
           285 MCMS
         10635 MCM
                 (MCM OR MCMS)
        241820 41
L6        5748 MCM-41
                 (MCM(W)41)

=> s L1 and L6
L7           7 L1 AND L6

=> d L7 1-7 bib abs
```

L7 ANSWER 1 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2007:222801 CAPLUS
TI Recent progress in the synthesis and selected applications of MCM -41: a short review
AU Bhattacharyya, S.; Lelong, G.; Saboungi, M.-L.
CS CRMD-CNRS, Orleans, 45071/2, Fr.
SO Journal of Experimental Nanoscience (2006), 1(1-4), 375-395
CODEN: JENOBX; ISSN: 1745-8080
PB Taylor & Francis Ltd.
DT Journal
LA English
AB Recent progress in the synthesis and applications of MCM-41 based mesoporous materials is reviewed. Since the independent discovery in the early 1990s by groups in the Japan and USA of the formation of mesostructured silica using surfactants as structure directing agents, a variety of alternative synthesis routes have been proposed. These include the use of ionic (both cationic and anionic) surfactants, neutral surfactants based on block and star diblock copolymers, non-surfactant organic compds. and the Stober process for synthesizing silica spheres. The unique properties of MCM-41 based silica materials make them attractive candidates for applications in catalysis, production of novel materials by encapsulating metals, semiconductors and biofluids. Particular attention is given to the use of these composites in biotechnol. including biosensors, biocatalysis and drug delivery.

L7 ANSWER 2 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:594830 CAPLUS
DN 145:65493
TI Synthesis and characterization of mesoporous MCM-41 templated by the mixture of cationic-anionic surfactant
AU Tai, Xiumei; Wang, Hongxia; Du, Zhiping; Shi, Xiuqi
CS Daily Chemical Industry, China Research Institute, Taiyuan, 030001, Peop. Rep. China
SO Tenside, Surfactants, Detergents (2006), 43(2), 103-105
CODEN: TSDEES; ISSN: 0932-3414
PB Carl Hanser Verlag
DT Journal
LA German
AB Using the mixture of cationic cetyltrimethylammonium bromide (CTAB) and anionic Sodium Alkyl Epoxy Ethylene Carboxylate (AEC9Na) as template, tetra-Et orthosilicate (TEOS) as silica source, ethylenediamine (EDA) as base source, mesoporous MCM-41 was synthesized at room temperature, characterized by x-ray power diffraction(XRD) and N2 adsorption. The results showed that with the change of the ratio of cationic to anionic surfactant the pore size can be controlled and the mesoporous MCM-41 has larger pore size than that synthesized by using CTAB alone as template.
RE.CNT 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:225036 CAPLUS
DN 144:457090
TI Amino-functionalized mesoporous silica synthesized by an anionic surfactant templating route
AU Yokoi, Toshiyuki; Yoshitake, Hideaki; Yamada, Takashi; Kubota, Yoshihiro; Tatsumi, Takashi
CS Department of Chemical System Engineering, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8656, Japan
SO Journal of Materials Chemistry (2006), 16(12), 1125-1135
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English

AB A "S-N+.apprx.I- pathway" (S-: anionic surfactant, N+: cationic amino group and I: inorg. species) for the synthesis of mesoporous silica has been developed by using 3-aminopropyltriethoxysilane (APS) as a co-structure directing agent (CSDA), which can interact with the anionic head group in the surfactant (SDA). Thus synthesized mesoporous silica has been designated as AMS (Anionic-surfactant-templated Mesoporous Silica). Removal of the anionic surfactant by extraction led to the functionalized AMS containing amino groups on the silica surface. Amino-functionalized AMS using 3-aminopropyltriethoxysilane (APS) and lauric acid sodium salt (LAS) as CSDA and SDA, resp., was synthesized with varying proportions of APS in the silica sources (x-APS-AMS, where x is the proportion of APS in the silica sources, x = 0.1-0.6). In 0.4-APS-AMS, the content of amino groups derived from APS estimated by CHN elemental anal. and the argentometric titration was 2.36 and 2.24 mmol g-1, resp., suggesting that almost all the aminopropyl moieties were on the surfaces in contrast to the MCM-41 type materials synthesized with a cationic surfactant. Thus obtained amino-functionalized AMS via the anionic surfactant templating route shows a higher adsorption capacity for Co2+ cations than amino-functionalized MCM-41 prepared by the direct co-condensation method via a conventional cationic templating route. There was also a marked difference in the activity for the Knoevenagel reaction between amino-functionalized AMS and MCM-41, indicating a significant difference in the state of aminopropyl moieties exposed to the surfaces.
RE.CNT 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 4 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:70049 CAPLUS
DN 142:320903
TI Micro- and mesoporous silicas synthesized in acidic water-ethanol solution of equimolar catanionic surfactant
AU Wang, Yi Meng; Zhuang, Ting Ting; Cao, Yi; Jiang, Qi; Zhu, Jian Hua
CS Key Laboratory of Mesoscopic Chemistry, Department of Chemistry, Nanjing University, Nanjing, 210093, Peop. Rep. China
SO Journal of Non-Crystalline Solids (2005), 351(4), 346-350
CODEN: JNCSBJ; ISSN: 0022-3093
PB Elsevier B.V.
DT Journal
LA English
AB Porous silicas with combined micro- and mesoporosity are synthesized in acidic water-ethanol solution of equimolar catanionic mixture, where the mesopores are narrowly and uniformly distributed, and the micropores generate due to the addition of ethanol. To vary the pH value of the synthetic mixture can also change the ratio of micro-/mesopores volume in the resulting samples. Compared with other amorphous silica gels and ordered mesoporous silicas including MCM-41, MCM-48 and SBA-15, these micro- and mesoporous silicas show much improved adsorptive capacity for volatile nitrosamines.
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 5 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:870435 CAPLUS
DN 142:55711
TI Chiral manganese(III) salen catalysts immobilized on MCM-41 and delaminated zeolites ITQ-2 and ITQ-6 through new axial coordinating linkers
AU Dominguez, Irene; Fornes, Vicente; Sabater, Maria J.
CS Instituto de Tecnologia Quimica, Universidad Politecnica de Valencia, UPV-CSIC, Valencia, 46022, Spain
SO Journal of Catalysis (2004), 228(1), 92-99
CODEN: JCTLA5; ISSN: 0021-9517

PB Elsevier
DT Journal
LA English
OS CASREACT 142:55711
AB The authors report that the catalytic behavior and enantioselectivity of three different chiral Mn(III) salen complexes anchored to traditional supports such as MCM-41 (38-Å pore diameter) and delaminated zeolitic materials ITQ-2 and ITQ-6 strongly depend on whether the complexes are attached to the surfaces through the chiral equatorial tetradentate salen ligand or via the apical ligand. As for the case of unsupported complexes, this exptl. observation was accounted for strong variations in the conformational preference of the catalyst intermediate toward the approaching olefin, as well as to unfavorable structural changes in the complex. Control of the hydrophobicity of the surface allows for optimization of selectivity in obtaining chiral epoxides.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:123106 CAPLUS
DN 141:324459
TI Synthesis of mesoporous molecular sieves with secondary building units of Y zeolite by using surfactants in low concentration as template
AU Liu, Su; Kong, Ling-dong; He, A-di; Li, Quan-zhi
CS Department of Environmental Science and Engineering, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Fudan Xuebao, Ziran Kexueban (2003), 42(6), 1003-1006
CODEN: FHPTAY; ISSN: 0427-7104
PB Fudan Daxue Chubanshe
DT Journal
LA Chinese
AB Mesoporous aluminosilicates with the structure of MCM-41 have been synthesized in alkaline situation, by using the mixture of cationic and anionic surfactants in very low concentration (xsurf/xSiO2 = 0.07) as template and the get containing secondary building units of Y zeolite as precursors. XRD, FT-IR and N2 adsorption and desorption isotherms prove that this material has ordered hexagonal structure with Y zeolite secondary unit in its pore walls, which are thicker than the walls of MCM-41 materials synthesized by normal hydrothermal ways. SEM image shows a very unusual net-like morphol. of the material, different from the common loose shape of MCM-41. After being treated in 100% water vapor at 600° for 10 h, the structure of mesopore can still be sustained, showing high hydrothermal stability.

L7 ANSWER 7 OF 7 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2002:44784 CAPLUS
DN 136:237362
TI Controlled Solubilization of Toluene by Silicate-Catanionic Surfactant Mesophases as Studied by in Situ and ex Situ XRD
AU Lind, Anna; Andersson, Jenny; Karlsson, Stefan; Aagren, Patrik; Bussian, Patrick; Amenitsch, Heinz; Linden, Mika
CS Department of Physical Chemistry, Aabo Akademi University, Turku, FIN-20500, Finland
SO Langmuir (2002), 18(4), 1380-1385
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB Mesoscopically ordered silicate-surfactant composite materials of the M41S type synthesized in the presence of a swollen agent were characterized by in situ and ex situ x-ray diffraction anal. The key feature of the room-temperature synthesis is the use of a mixture of cationic and anionic surfactants as structure-directing agents. The lower interfacial charge d. of the mixed surfactant aggregates stabilizes structures of

lower interfacial curvature and therefore facilitates a more controlled solubilization of organic swelling agents. An increased solubilization capacity of the catanionic surfactant-silicate mesophase was observed close to an anionic/cationic surfactant ratio corresponding to a transition to the lamellar phase in the absence of toluene. In the presence of toluene, the catanionic template stabilizes microemulsion droplets that serve as building blocks for the final material. However, a fair amount of organic compound is solubilized in the SiO2-catanionic surfactant composite after the mesophase is formed. Although the present communication concerns mesoporous SiO2, the concept is a general one and may give nonsiliceous large-pore materials.

RE.CNT 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> s mesoporous silica
         15846 MESOPOROUS
        528571 SILICA
          4020 SILICAS
        528998 SILICA
                 (SILICA OR SILICAS)
L8       4517 MESOPOROUS SILICA
                 (MESOPOROUS(W)SILICA)

=> s MCM-41
         10526 MCM
           285 MCMS
         10635 MCM
                 (MCM OR MCMS)
        241820 41
L9       5748 MCM-41
                 (MCM(W)41)

=> s L9 and L8
L10       957 L9 AND L8

=> s process
       2392365 PROCESS
       1626581 PROCESSES
L11    3570567 PROCESS
                 (PROCESS OR PROCESSES)

=> s L9 and L11
L12      1522 L9 AND L11

=> s anionic surfactant
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           259 ANIONICS
        120072 ANIONIC
                 (ANIONIC OR ANIONICS)
        189081 SURFACTANT
        169428 SURFACTANTS
        240370 SURFACTANT
                 (SURFACTANT OR SURFACTANTS)
L13     20975 ANIONIC SURFACTANT
                 (ANIONIC(W)SURFACTANT)

=> s L12 and L13
L14          1 L12 AND L13

=> s basic silane
        396154 BASIC
          3215 BASICS
        399019 BASIC
                 (BASIC OR BASICS)
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         86490 SILANE
         33354 SILANES
        100486 SILANE
                (SILANE OR SILANES)
L15         13 BASIC SILANE
                (BASIC(W)SILANE)

=> s L12 and L15
L16          0 L12 AND L15

=> s silicate monomer
        194501 SILICATE
         63951 SILICATES
        223364 SILICATE
                (SILICATE OR SILICATES)
        192326 MONOMER
        154804 MONOMERS
        299813 MONOMER
                (MONOMER OR MONOMERS)
L17         43 SILICATE MONOMER
                (SILICATE(W)MONOMER)

=> s L8 and L17
L18          3 L8 AND L17

=> d L18 1-3 bib abs

L18  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:198261  CAPLUS
TI   Mesoporous silica and method for the production
IN   Takahashi, Shun; Sakamoto, Kazutami; Hiwatari, Kouzou
PA   Shiseido Co., Ltd., Japan
SO   PCT Int. Appl., 37pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.         DATE
     --------------       ----   --------    --------------------    --------
PI   WO 2007020894         A1    20070222    WO 2006-JP315949        20060811
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR,
             KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW,
             MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC,
             SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
             UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     JP 2007045692         A     20070222    JP 2005-234777          20050812
PRAI JP 2005-234777        A     20050812
     JP 2005-344421        A     20051129
AB   The method is performed under electrolyte-free conditions by using a
     surfactant aggregate structure as a template to produce mesoporous
     silica having a novel geometrical structure.  The
     mesoporous silica is produced under electrolyte-free
     conditions by reacting a nonionic surfactant with a water-soluble
     silicate monomer having a specific structure under
     neutral conditions.  A sheet-like mesoporous silica is
     produced by using a nonionic surfactant forming a ribbon phase or nematic
     phase at appropriate temperature ranges and concentration ranges when
dissolved in
```

water.
RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L18 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1129083 CAPLUS
DN 143:393066
TI Oral adsorbents for the treatment of high-phosphorous blood disease
IN Imada, Tomoyuki; Sakamoto, Kazutami; Tatsumi, Takashi; Matsutani, Naomi; Takayanagi, Hiroshi
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005289853	A	20051020	JP 2004-105257	20040331
PRAI JP 2004-105257		20040331		

AB Mesoporous silica is orally administered to adsorb phosphoric acid for the treatment of high-phosphorous blood disease. The mesoporous silica is produced from an anionic surfactant, a silicate monomer, and a basic silane.

L18 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1054452 CAPLUS
DN 142:40845
TI method to produce mesoporous silica
IN Tatsumi, Takashi; Yoshitake, Hideaki; Yokoi, Toshiyuki; Che, Shu-nai; Sakamoto, Kazutami
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004345895	A	20041209	JP 2003-144187	20030521
US 2004267038	A1	20041230	US 2003-716427	20031120
PRAI JP 2003-144187	A	20030521		

AB The mesoporous SiO2 is produced by mixing an anionic surfactant, a silicate monomer, and a basic silane having a general formula of (R1O)3Si-X-NR2R3, where R1-3 are linear- or branched-chain alkyl or H, and X is linear- or branched-chain alkylene. The method synthesizes mesoporous SiO2 having high structural order utilizing the anionic surfactant micelles.

```
=> s mesoporous silica
         15846 MESOPOROUS
        528571 SILICA
          4020 SILICAS
        528998 SILICA
                 (SILICA OR SILICAS)
L19       4517 MESOPOROUS SILICA
                 (MESOPOROUS(W)SILICA)

=> s anionic surfactant
        119969 ANIONIC
           259 ANIONICS
        120072 ANIONIC
                 (ANIONIC OR ANIONICS)
        189081 SURFACTANT
```

```
        169428 SURFACTANTS
        240370 SURFACTANT
                  (SURFACTANT OR SURFACTANTS)
L20      20975 ANIONIC SURFACTANT
                  (ANIONIC(W)SURFACTANT)

=> s L19 and L20
L21         26 L19 AND L20

=> s process
       2392365 PROCESS
       1626581 PROCESSES
L22    3570567 PROCESS
                  (PROCESS OR PROCESSES)
 75% OF LIMIT FOR TOTAL ANSWERS REACHED

=> s L22 and L19
L23       1530 L22 AND L19

=> s L23 and L20
L24          2 L23 AND L20

=> d L24 1-2 bib abs

L24  ANSWER 1 OF 2  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2006:1107834  CAPLUS
DN   146:69400
TI   Hierarchically helical mesostructured silica nanofibers templated by
     achiral cationic surfactant
AU   Wang, Jingui; Wang, Wenqiu; Sun, Pingchuan; Yuan, Zhongyong; Li, Baohui;
     Jin, Qinghua; Ding, Datong; Chen, Tiehong
CS   Department of Materials Chemistry, College of Chemistry, Key Laboratory of
     Functional Polymer Materials of MOE, Nankai Univ., Tianjin, 300071, Peop.
     Rep. China
SO   Journal of Materials Chemistry (2006), 16(42), 4117-4122
     CODEN: JMACEP; ISSN: 0959-9428
PB   Royal Society of Chemistry
DT   Journal
LA   English
AB   Recently, ordered chiral mesoporous silica with a
     twisted hexagonal rod-like morphol. and hexagonally ordered chiral
     channels has been synthesized by using chiral anionic
     surfactants as a liquid crystal template (S. Che, Z. Liu, T. Ohsuna,
     K. Sakamoto, O. Terasaki and T. Tatsumi, Nature, 2004, 429, 281). In this
     work, we report an observation of hierarchically helical
     mesoporous silica nanofibers organized by the achiral
     cationic surfactant cetyltrimethylammonium bromide (CTAB). These
     nanofibers (diameter ranging around 100-300 nm) grew from a two-phase system
     (H2O, CTAB, HCl for the aqueous phase and tetraethylsiloxane (TEOS) in hexane
     for the oil phase). SEM and TEM characterizations were performed and the
     results indicate that these nanofibers possess rope-like twisted hexagonal
     morphol. and helical (chiral) mesoporous channels running inside winding
     around the fiber axis. These twisted hexagonal nanofibers could further
     curve spirally to form a second-level helical morphol. (hierarchically
     helical morphol.). As no chiral mols. are used in the synthesis, the
     hierarchically helical morphol. of nanofibers could be explained by the
     different kinds of topol. defects existing in the silicate liquid crystal
     seeds formed in a diffusion-controlled kinetic process, and
     these defects could initiate and direct the growth of particular forms of
     mesostructured silica. Formation of the ordered chiral mesoporous
     silica would be expected to be a general phenomenon in the
     cooperative assembly between amphiphilic organic mols. (templates) and inorg.
     species, no matter whether the templates are chiral or achiral.
RE.CNT  32   THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
             ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

L24 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:411727 CAPLUS
DN 143:104143
TI Nonionic Block Copolymer and Anionic Mixed Surfactants Directed Synthesis of Highly Ordered Mesoporous Silica with Bicontinuous Cubic Structure
AU Chen, Dehong; Li, Zheng; Yu, Chengzhong; Shi, Yifeng; Zhang, Zhendong; Tu, Bo; Zhao, Dongyuan
CS Department of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Chemistry of Materials (2005), 17(12), 3228-3234
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Mesoporous silica with Ia.hivin.3d structure has been successfully prepared by using mixed surfactants of com. available nonionic block copolymer P123 (EO20PO70EO20) and anionic sodium dodecyl sulfate (SDS) as structure-directing agents through an acid-catalyzed silica sol-gel process. XRD, TEM, and N2 sorption measurements show that the products have highly ordered bicontinuous cubic mesostructure with high surface area (.apprx.770 m2/g), large pore volume (.apprx.1.5 cm3/g), and uniform pore size (.apprx.10 nm). Effects of preparation parameters on the formation of the mesostructure have been extensively investigated. It is found that the molar ratios of SDS/P123 between 2.1 and 2.5 and that of silicic species to P123 in the range from 40 to 75 are favorable for the formation of highly ordered Ia.hivin.3d mesostructure. Prolonging hydrothermal treatment time leads to almost unchanged cell parameters of the products, whereas there is obvious increase of the pore sizes and pore volume The results show that resultant template-free mesoporous silica products have excellent thermal stability, and they are more stable in N2 atmosphere than in air. Morphologies of the resultant materials can be further controlled by adding inorg. salt (such as Na2SO4) into the mixed surfactants system. Coral- and petaline-like mesoporous silica with continuous skeletons can be obtained. Understanding this synthesis system might be useful for economical and large-scale production of mesoporous materials with controllable structures.
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> s anionic surfactant
119969 ANIONIC
259 ANIONICS
120072 ANIONIC
(ANIONIC OR ANIONICS)
189081 SURFACTANT
169428 SURFACTANTS
240370 SURFACTANT
(SURFACTANT OR SURFACTANTS)
L25 20975 ANIONIC SURFACTANT
(ANIONIC(W)SURFACTANT)

=> s silicate monomer
194501 SILICATE
63951 SILICATES
223364 SILICATE
(SILICATE OR SILICATES)
192326 MONOMER
154804 MONOMERS
299813 MONOMER
(MONOMER OR MONOMERS)

```
L26          43 SILICATE MONOMER
                (SILICATE(W)MONOMER)

=> s basic silane
         396154 BASIC
           3215 BASICS
         399019 BASIC
                (BASIC OR BASICS)
          86490 SILANE
          33354 SILANES
         100486 SILANE
                (SILANE OR SILANES)
L27          13 BASIC SILANE
                (BASIC(W)SILANE)

=> s L25 and L26
L28           2 L25 AND L26

=> s :25 amd L27
MISSING OPERATOR AMD L27
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.

=> s L25 and L27
L29           2 L25 AND L27

=> s mesoporous silica and L26
          15846 MESOPOROUS
         528571 SILICA
           4020 SILICAS
         528998 SILICA
                (SILICA OR SILICAS)
           4517 MESOPOROUS SILICA
                (MESOPOROUS(W)SILICA)
L30           3 MESOPOROUS SILICA AND L26

=> d L30 1-3 bib abs

L30  ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:198261  CAPLUS
TI   Mesoporous silica and method for the production
IN   Takahashi, Shun; Sakamoto, Kazutami; Hiwatari, Kouzou
PA   Shiseido Co., Ltd., Japan
SO   PCT Int. Appl., 37pp.
     CODEN: PIXXD2
DT   Patent
LA   Japanese
FAN.CNT 1
     PATENT NO.           KIND   DATE        APPLICATION NO.          DATE
     --------------       ----   --------    --------------------     --------
PI   WO 2007020894         A1    20070222    WO 2006-JP315949         20060811
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH,
             CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
             GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KR,
             KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW,
             MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC,
             SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
             UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
     JP 2007045692         A     20070222    JP 2005-234777           20050812
PRAI JP 2005-234777        A     20050812
```

JP 2005-344421 A 20051129

AB The method is performed under electrolyte-free conditions by using a surfactant aggregate structure as a template to produce mesoporous silica having a novel geometrical structure. The mesoporous silica is produced under electrolyte-free conditions by reacting a nonionic surfactant with a water-soluble silicate monomer having a specific structure under neutral conditions. A sheet-like mesoporous silica is produced by using a nonionic surfactant forming a ribbon phase or nematic phase at appropriate temperature ranges and concentration ranges when dissolved in water.

RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L30 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1129083 CAPLUS
DN 143:393066
TI Oral adsorbents for the treatment of high-phosphorous blood disease
IN Imada, Tomoyuki; Sakamoto, Kazutami; Tatsumi, Takashi; Matsutani, Naomi; Takayanagi, Hiroshi
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2005289853	A	20051020	JP 2004-105257	20040331
PRAI	JP 2004-105257		20040331		

AB Mesoporous silica is orally administered to adsorb phosphoric acid for the treatment of high-phosphorous blood disease. The mesoporous silica is produced from an anionic surfactant, a silicate monomer, and a basic silane.

L30 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1054452 CAPLUS
DN 142:40845
TI method to produce mesoporous silica
IN Tatsumi, Takashi; Yoshitake, Hideaki; Yokoi, Toshiyuki; Che, Shu-nai; Sakamoto, Kazutami
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004345895	A	20041209	JP 2003-144187	20030521
	US 2004267038	A1	20041230	US 2003-716427	20031120
PRAI	JP 2003-144187	A	20030521		

AB The mesoporous SiO2 is produced by mixing an anionic surfactant, a silicate monomer, and a basic silane having a general formula of (R1O)3Si-X-NR2R3, where R1-3 are linear- or branched-chain alkyl or H, and X is linear- or branched-chain alkylene. The method synthesizes mesoporous SiO2 having high structural order utilizing the anionic surfactant micelles.

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                  has been enhanced and reloaded
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 NEWS  5  NOV 03  JAPIO enhanced with IPC 8 features and functionality
 NEWS  6  NOV 10  CA/CAplus F-Term thesaurus enhanced
 NEWS  7  NOV 10  STN Express with Discover! free maintenance release Version
                  8.01c now available
 NEWS  8  NOV 20  CA/CAplus to MARPAT accession number crossover limit increased
                  to 50,000
 NEWS  9  DEC 01  CAS REGISTRY updated with new ambiguity codes
 NEWS 10  DEC 11  CAS REGISTRY chemical nomenclature enhanced
 NEWS 11  DEC 14  WPIDS/WPINDEX/WPIX manual codes updated
 NEWS 12  DEC 14  GBFULL and FRFULL enhanced with IPC 8 features and
                  functionality
 NEWS 13  DEC 18  CA/CAplus pre-1967 chemical substance index entries enhanced
                  with preparation role
 NEWS 14  DEC 18  CA/CAplus patent kind codes updated
 NEWS 15  DEC 18  MARPAT to CA/CAplus accession number crossover limit increased
                  to 50,000
 NEWS 16  DEC 18  MEDLINE updated in preparation for 2007 reload
 NEWS 17  DEC 27  CA/CAplus enhanced with more pre-1907 records
 NEWS 18  JAN 08  CHEMLIST enhanced with New Zealand Inventory of Chemicals
 NEWS 19  JAN 16  CA/CAplus Company Name Thesaurus enhanced and reloaded
 NEWS 20  JAN 16  IPC version 2007.01 thesaurus available on STN
 NEWS 21  JAN 16  WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
 NEWS 22  JAN 22  CA/CAplus updated with revised CAS roles
 NEWS 23  JAN 22  CA/CAplus enhanced with patent applications from India
 NEWS 24  JAN 29  PHAR reloaded with new search and display fields
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NEWS 25  JAN 29  CAS Registry Number crossover limit increased to 300,000 in
                 multiple databases
NEWS 26  FEB 13  CASREACT coverage to be extended
NEWS 27  Feb 15  PATDPASPC enhanced with Drug Approval numbers
NEWS 28  Feb 15  RUSSIAPAT enhanced with pre-1994 records
NEWS 29  Feb 23  KOREAPAT enhanced with IPC 8 features and functionality
NEWS 30  Feb 26  MEDLINE reloaded with enhancements
NEWS 31  Feb 26  EMBASE enhanced with Clinical Trial Number field
NEWS 32  Feb 26  TOXCENTER enhanced with reloaded MEDLINE
NEWS 33  Feb 26  IFICDB/IFIPAT/IFIUDB reloaded with enhancements
NEWS 34  Feb 26  CAS Registry Number crossover limit increased from 10,000
                 to 300,000 in multiple databases

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              MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
              AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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=> s mesoporous silica
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         15846 MESOPOROUS
        528571 SILICA
          4020 SILICAS
        528998 SILICA
                 (SILICA OR SILICAS)
L1        4517 MESOPOROUS SILICA
                 (MESOPOROUS(W)SILICA)

=> s anionic surfactant
        119969 ANIONIC
           259 ANIONICS
        120072 ANIONIC
                 (ANIONIC OR ANIONICS)
        189081 SURFACTANT
        169428 SURFACTANTS
        240370 SURFACTANT
                 (SURFACTANT OR SURFACTANTS)
L2       20975 ANIONIC SURFACTANT
                 (ANIONIC(W)SURFACTANT)

=> s L1 and L2
L3          26 L1 AND L2

=> d L3 1-26 bib abs

L3   ANSWER 1 OF 26  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2006:1335049  CAPLUS
TI   Anionic surfactant templated mesoporous
     silica (AMS)
AU   Gao, Chuan-bo; Che, Shun-ai
CS   School of Chemistry and Chemical Technology, Shanghai Jiao Tong
     University, Shanghai, 200240, Peop. Rep. China
SO   Shiyou Xuebao, Shiyou Jiagong (2006), 22(Suppl.), 22-32
     CODEN: SXSHEY; ISSN: 1001-8719
PB   Shiyou Xuebao, Shiyou Jiagong Bianjibu
DT   Journal
LA   English
AB   Anionic surfactant templated mesoporous
     silicas (AMSs) were prepared by using anionic
     surfactant as the template and aminopropylsiloxane or quaternized
     aminopropylsiloxane as the co-structure directing agent (CSDA). Diverse
     mesophases were discovered, from AMS-1 to 10, including the structures of
     three dimensional (3d-) hexagonal, 3d-tetragonal, 3d-cubic, 2d-hexagonal,
     bicontinuous cubic and lamellar. This novel route to prepare mesoporous
     materials also leads to the formation of chiral mesoporous
     silica with helical mesopores running inside, by using chiral
     anionic surfactant as the template, and the helicity and
     morphol. can be simply controlled by the stirring rate during the
     synthesis. Mesoporous silicas, functionalized with
     amino and quaternary ammonium groups and with the various structures given
     above were obtained by extraction of surfactant. Finally, the formation
     mechanism of AMS was discussed from the view of the kinetics and
     energetics, resp.
RE.CNT  26    THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3   ANSWER 2 OF 26  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2006:1107834  CAPLUS
DN   146:69400
TI   Hierarchically helical mesostructured silica nanofibers templated by
     achiral cationic surfactant
AU   Wang, Jingui; Wang, Wenqiu; Sun, Pingchuan; Yuan, Zhongyong; Li, Baohui;
     Jin, Qinghua; Ding, Datong; Chen, Tiehong
CS   Department of Materials Chemistry, College of Chemistry, Key Laboratory of
     Functional Polymer Materials of MOE, Nankai Univ., Tianjin, 300071, Peop.
```

Rep. China
SO Journal of Materials Chemistry (2006), 16(42), 4117-4122
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB Recently, ordered chiral mesoporous silica with a twisted hexagonal rod-like morphol. and hexagonally ordered chiral channels has been synthesized by using chiral anionic surfactants as a liquid crystal template (S. Che, Z. Liu, T. Ohsuna, K. Sakamoto, O. Terasaki and T. Tatsumi, Nature, 2004, 429, 281). In this work, we report an observation of hierarchically helical mesoporous silica nanofibers organized by the achiral cationic surfactant cetyltrimethylammonium bromide (CTAB). These nanofibers (diameter ranging around 100-300 nm) grew from a two-phase system (H2O, CTAB, HCl for the aqueous phase and tetraethylsiloxane (TEOS) in hexane for the oil phase). SEM and TEM characterizations were performed and the results indicate that these nanofibers possess rope-like twisted hexagonal morphol. and helical (chiral) mesoporous channels running inside winding around the fiber axis. These twisted hexagonal nanofibers could further curve spirally to form a second-level helical morphol. (hierarchically helical morphol.). As no chiral mols. are used in the synthesis, the hierarchically helical morphol. of nanofibers could be explained by the different kinds of topol. defects existing in the silicate liquid crystal seeds formed in a diffusion-controlled kinetic process, and these defects could initiate and direct the growth of particular forms of mesostructured silica. Formation of the ordered chiral mesoporous silica would be expected to be a general phenomenon in the cooperative assembly between amphiphilic organic mols. (templates) and inorg. species, no matter whether the templates are chiral or achiral.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:787482 CAPLUS
DN 145:213667
TI Meso-porous silica and its manufacture
IN Ogura, Takashi; Abe, Masahiko; Sakai, Hideki; Okubo, Takahiro
PA Tsubone, Kazuyuki, Japan; Takebayashi, Takashi
SO Jpn. Kokai Tokkyo Koho, 10pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2006206419	A	20060810	JP 2005-49671	20050128
PRAI JP 2005-49671		20050128		

AB The title silica is derived from a silica source and a mixed aqueous solution of a cationic surfactant and an organic template as an anionic surfactant; and is manufactured by mixing the silica source and the mixed aqueous solution in a water mixed solvent to have evenly sized meso-pores.

L3 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:675781 CAPLUS
DN 145:300333
TI Formation Mechanism of Anionic Surfactant-Templated Mesoporous Silica
AU Gao, Chuanbo; Qiu, Huibin; Zeng, Wei; Sakamoto, Yasuhiro; Terasaki, Osamu; Sakamoto, Kazutami; Chen, Qun; Che, Shunai
CS School of Chemistry and Chemical Technology, State Key Laboratory of Composite Materials, Shanghai Jiao Tong University, Shanghai, 200240, Peop. Rep. China

SO Chemistry of Materials (2006), 18(16), 3904-3914
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB The synthesis mechanism of anionic surfactant -templated mesoporous silica (AMS) is described. A family of highly ordered mesoporous silica structures have been synthesized via an approach based on the self-assembly of anionic surfactants and inorg. precursors by using aminopropylsiloxane or quaternized aminopropylsiloxane as the co-structure-directing agent (CSDA), which is a different route from previous pathways. Mesophases with differing surface curvatures, varying from cage type (tetragonal P42/mnm; cubic Pm.hivin.3n with modulations; cubic Fd.hivin.3m) to cylindrical (two-dimensional hexagonal p6mm), bicontinuous (cubic Ia.hivin.3d and Pn.hivin.3m), and lamellar have been obtained by controlling the charge d. of the micelle surfaces by varying the degree of ionization of the carboxylate surfactants. Changing the degree of ionization of the surfactant results in changes of the surfactant packing parameter g, which leads to different mesostructures. Furthermore, variation of the charge d. of pos. charged amino groups of the CSDA also gives rise to different values of g. Mesoporous silicas, functionalized with amino and quaternary ammonium groups and with the various structures given above, have been obtained by extraction of the surfactant. This report leads to a deeper understanding of the interactions between the surfactant anions and the CSDA and provides a feasible and facile approach to the mesophase design of AMS materials.
RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:651954 CAPLUS
DN 145:279030
TI Synthesis and characterization of mesoporous silica AMS-10 with bicontinuous cubic Pn.hivin.3m symmetry
AU Gao, Chuanbo; Sakamoto, Yasuhiro; Sakamoto, Kazutami; Terasaki, Osamu; Che, Shunai
CS School of Chemistry and Chemical Technology, State Key Laboratory of Composite materials, Shanghai Jiao Tong University, Shanghai, 200240, Peop. Rep. China
SO Angewandte Chemie, International Edition (2006), 45(26), 4295-4298
CODEN: ACIEF5; ISSN: 1433-7851
PB Wiley-VCH Verlag GmbH & Co. KGaA
DT Journal
LA English
AB By precisely controlling the neutralization degree of the anionic surfactant template, mesoporous silica with different structures was prepared, such as AMS-10. Detailed characterizations of AMS-10 show that it is a novel bicontinuous cubic Pn.hivin.3m mesophase. The mesostructure is composed of an interwoven enantiomeric pair of 3D networks.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 6 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:403914 CAPLUS
DN 146:91990
TI Synthesis of mesoporous silica with spiral morphology by using chiral anionic surfactant
AU Qu, Feng-Yu; Zhu, Guang-Shan; Lin, Hui-Ming; Zhang, Wei-Wei; Li, Shou-Gui; Qiu, Shi-Lun
CS State Key Lab. Inorg. Synthesis and Preparative Chem., Jilin Univ., Changchun, 130023, Peop. Rep. China
SO Gaodeng Xuexiao Huaxue Xuebao (2006), 27(4), 602-604
CODEN: KTHPDM; ISSN: 0251-0790

PB Gaodeng Jiaoyu Chubanshe
DT Journal
LA Chinese
AB Anionic chiral template Ibuprofen and co-template 3-Aminopropyltriethoxysilane were employed to synthesize mesoporous SiO2 with spiral morphol., and the sample was characterized by using XRD, FTIR, SEM and TEM methods, conforming its hexagonal mesoporous structure and spiral morphol.

L3 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:331475 CAPLUS
DN 145:51511
TI Anionic surfactant induced mesophase transformation to synthesize highly ordered large-pore mesoporous silica structures
AU Chen, Dehong; Li, Zheng; Wan, Ying; Tu, Xingjun; Shi, Yifeng; Chen, Zhenxia; Shen, Wei; Yu, Chengzhong; Tu, Bo; Zhao, Dongyuan
CS Department of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Journal of Materials Chemistry (2006), 16(16), 1511-1519
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB Successive mesophase transformation induced by an anionic surfactant such as sodium dioctyl sulfosuccinate (AOT) has been demonstrated to fabricate four kinds of large pore mesoporous silica materials in a triblock copolymer F127 surfactant assembly system. The transformation of the highly ordered mesostructures from face-centered cubic (space group Fm3m) to body-centered Im3m then towards two-dimensional (2-D) hexagonal p6m and eventually to cubic bicontinuous Ia3d symmetries has been achieved by tuning the amount of AOT and 1,3,5-trimethylbenzene (TMB). Characterization by small-angle X-ray scattering (SAXS), powder X-ray diffraction (XRD), transmission electron microscopy (TEM) and N2 sorption isotherms reveals that all mesoporous silica structures have highly ordered regularity in large domains and possess high surface areas, large pore vols. and uniform pore sizes. The expansion of hydrophobic volume in the amphiphilic Pluronic F127 surfactant associated with AOT and TMB mols. in an acidic media is attributed to the observed mesophase transformation. A further swelling of the surfactant micelles can be achieved by adding TMB mols. into the mixed AOT and F127 surfactants system due to their synergistic solubility enhancement, which gives rise to a long-range ordered 2-D hexagonal mesoporous silica structure with very large cell parameter (a = 16.5 nm) and pore size (.apprx.12 nm). The understanding of the blend-surfactant assembly mechanism will lead to a more rational approach for economical and large-scale production of mesoporous materials with controllable structures.
RE.CNT 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:287292 CAPLUS
DN 145:496118
TI Synthesis of amino-functionalized mesoporous silica -zirconia mixed oxide using sodium silicate and zirconium carbonate complex
AU Tarafdar, A.; Pramanik, P.
CS Department of Chemistry, Indian Institute of Technology Kharagpur, Kharagpur, 721 302, India
SO Microporous and Mesoporous Materials (2006), 91(1-3), 221-224
CODEN: MIMMFJ; ISSN: 1387-1811
PB Elsevier B.V.
DT Journal

LA English
AB Amino-functionalized mesostructured SiO2-zirconia mixed oxide was synthesized through a very convenient one step synthesis route using H2O soluble Na silicate, Zr(IV) carbonate complex and 3-aminopropyltriethoxysilane in the presence of anionic surfactant Na dodecyl sulfate under basic condition, exhibiting excellent adsorption properties towards arsenate ions. Moderately high surface area was achieved using Si/Zr ratio 2.06 and 10 mol% 3-aminopropyltriethoxysilane with respect to the amount of SiO2. The presence of mixed oxide framework is clearly visible from the peak shift of Si-O-Si stretching frequency in FTIR spectra. The SBET and pore volume of the composite is 420 m2 g-1 and 0.4396 mL g-1 resp. with uniform and narrow pore size distribution centered at 42.8 Å. The mesoporous composite showed good absorption properties towards arsenate anion and anionic dye mols.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:225036 CAPLUS
DN 144:457090
TI Amino-functionalized mesoporous silica synthesized by an anionic surfactant templating route
AU Yokoi, Toshiyuki; Yoshitake, Hideaki; Yamada, Takashi; Kubota, Yoshihiro; Tatsumi, Takashi
CS Department of Chemical System Engineering, University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, 113-8656, Japan
SO Journal of Materials Chemistry (2006), 16(12), 1125-1135
CODEN: JMACEP; ISSN: 0959-9428
PB Royal Society of Chemistry
DT Journal
LA English
AB A "S-N+.apprx.I- pathway" (S-: anionic surfactant, N+: cationic amino group and I: inorg. species) for the synthesis of mesoporous silica has been developed by using 3-aminopropyltriethoxysilane (APS) as a co-structure directing agent (CSDA), which can interact with the anionic head group in the surfactant (SDA). Thus synthesized mesoporous silica has been designated as AMS (Anionic-surfactant-templated Mesoporous Silica). Removal of the anionic surfactant by extraction led to the functionalized AMS containing amino groups on the silica surface. Amino-functionalized AMS using 3-aminopropyltriethoxysilane (APS) and lauric acid sodium salt (LAS) as CSDA and SDA, resp., was synthesized with varying proportions of APS in the silica sources (x-APS-AMS, where x is the proportion of APS in the silica sources, x = 0.1-0.6). In 0.4-APS-AMS, the content of amino groups derived from APS estimated by CHN elemental anal. and the argentometric titration was 2.36 and 2.24 mmol g-1, resp., suggesting that almost all the aminopropyl moieties were on the surfaces in contrast to the MCM-41 type materials synthesized with a cationic surfactant. Thus obtained amino-functionalized AMS via the anionic surfactant templating route shows a higher adsorption capacity for Co2+ cations than amino-functionalized MCM-41 prepared by the direct co-condensation method via a conventional cationic templating route. There was also a marked difference in the activity for the Knoevenagel reaction between amino-functionalized AMS and MCM-41, indicating a significant difference in the state of aminopropyl moieties exposed to the surfaces.
RE.CNT 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:3406 CAPLUS
DN 145:196528
TI Highly efficient synthesis of ordered mesoporous silica

materials with controllable microporosity using surfactant mixtures as templates
AU Li, Defeng; Guan, Xiangyu; Song, Jiangwei; Di, Yan; Zhang, Daliang; Ge, Xin; Zhao, Lan; Xiao, Feng-Shou
CS Department of Chemistry & State Key Laboratory of Inorganic Synthesis and Preparative Chemistry, Jilin University, Changchun, 130023, Peop. Rep. China
SO Colloids and Surfaces, A: Physicochemical and Engineering Aspects (2006), 272(3), 194-202
CODEN: CPEAEH; ISSN: 0927-7757
PB Elsevier B.V.
DT Journal
LA English
AB Ordered mesoporous SiO2 materials (SBA-family) with 2-dimensional hexagonal (p6mm) and 3-dimensional cubic (Im3m) symmetry were efficiently synthesized by using the mixture of triblock copolymer surfactant and Na dodecylsulfonate as co-templates at relatively low concentration XRD, TEM, and nitrogen adsorption/desorption isotherms are used to characterize these mesoporous SiO2 materials, and the mesoporous SiO2 materials synthesized from the mixed surfactants have better mesostructural order and smaller mesopore size, compared with mesoporous SiO2 materials of SBA-15 and SBA-16. Also, the microporosity in these ordered mesoporous materials is well controlled by the weight ratios of polymer surfactant to anionic surfactant. Particularly, when P123 concentration in the starting gel is reduced to <0.4%, the walls of ordered hexagonal mesoporous SiO2 are micropore-free.
RE.CNT 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1334060 CAPLUS
DN 144:240821
TI Racemic Helical Mesoporous Silica Formation by Achiral Anionic Surfactant
AU Wu, Xiaowei; Jin, Haiying; Liu, Zheng; Ohsuna, Tetsu; Terasaki, Osamu; Sakamoto, Kazutami; Che, Shunai
CS Department of Chemistry, School of Chemistry and Chemical Technology, Shanghai Jiao Tong University, Shanghai, 200240, Peop. Rep. China
SO Chemistry of Materials (2006), 18(2), 241-243
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB We here report that achiral surfactant sodium dodecyl sulfate can form ordered racemic helical mesoporous silica by its self-assembly in the presence of N-trimethoxy-silylpropyl-N,N,N-trimethylammonium chloride.
RE.CNT 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1245482 CAPLUS
DN 144:475749
TI New approach for the control of size and surface characteristics of mesoporous silica particles by using mixed surfactants in W/O emulsion
AU Lee, Yong-Geun; Oh, Chul; Yoo, Sang-Ki; Koo, Sang-Man; Oh, Seong-Geun
CS Department of Chemical Engineering, Center for Ultramicrochemical Process System (CUPS), Hanyang University, Seoul, 133-791, S. Korea
SO Microporous and Mesoporous Materials (2005), 86(1-3), 134-144
CODEN: MIMMFJ; ISSN: 1387-1811
PB Elsevier B.V.
DT Journal
LA English
AB Mesoporous SiO2 micro-spheres were prepared using an emulsion-gel method in

W/O emulsion consisting of aqueous solution of SDS or Tween 20 and n-octanol of hydroxypropyl cellulose (HPC) and Span 80. The morphol. of H2O droplets in W/O emulsion was controlled by the concentration of the H2O-soluble surfactants of SDS and Tween 20 and the oil-soluble surfactant of Span 80. Since H2O droplets serve as a supporting structure for particle growth and aggregation, their morphol. influences the shape, size, and size distribution of particles. When 3% and 5% of Span 80 were employed in system, the effect of surfactant on the particle size distribution was more prominent than when 7% was used. Anionic surfactants were hardly used in aqueous phase to make mesoporous SiO2 particles and one or more H2O-soluble surfactants were only used in aqueous phase to control the shape of particles. The particles of mesophase structure were synthesized when the anionic surfactant, SDS, was added to the H2O phase and the nonionic surfactant, Span 80, was employed in the oil phase. As the concentration of SDS and Tween 20 increases, the pore size of samples is altered from 7.2 nm up to 44.4 nm. This change of surface morphol. occurred due to the solubilization ability of H2O-soluble surfactants. Also, depending on whether the anionic surfactant or nonionic surfactant is used, the degree of the change in pore size distribution of SiO2 particles is relatively different. When SDS is used, the maximum peaks of the pore size distribution are located on the right rather than those in SiO2 particles prepared using Tween 20. The structure of these materials was characterized by optical microscope, field-emission SEM, and nitrogen adsorption and desorption (BET isotherms and BJH pore size distribution measurements).

RE.CNT 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1230733 CAPLUS
DN 144:194671
TI Synthesis of chiral mesoporous silica
IN Che, Shunai; Chen, Sijing; Sakamoto, Kazutami
PA Shanghai Jiao Tong University, Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 12 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI CN 1569632	A	20050126	CN 2004-10018020	20040429
PRAI CN 2004-10018020		20040429		

AB This invention discloses a chiral mesoporous silica and the synthetic method. Synthesis of the chiral mesoporous silica includes the following steps: dissolving chiral anionic surfactant,N-acyl-L-alanine or its salt, adding base or inorg. acid solution to form micelles as structure-directing materials, adding aminosilane or quaternized aminosilane as co-structure-directing agent, adding silane and allowing them to react at 0-100 ÅC for 1-4 days, and centrifugating or filtering, rinsing, drying, and baking to obtain chiral mesoporous silica. The mesoporous silica has two-dimensional hexagonal p6 mm structure and has orderly helical channels with different curvatures around the center of the hexagonal rod. The material has good application prospect in biochem., medicinal chemical, electronics, and macromol. material.

L3 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1160575 CAPLUS
DN 145:125078
TI Studies of anionic surfactant templated mesoporous structures by electron microscopy

AU Garcia-Bennett, Alfonso E.; Che, Shunai; Miyasaka, Keiichi; Sakamoto, Yasuhiro; Ohsuna, Tetsu; Liu, Zheng; Terasaki, Osamu
CS Structural Chemistry, Arrhenius Laboratory, Stockholm University, Stockholm, S-10691, Swed.
SO Studies in Surface Science and Catalysis (2005), 156(Nanoporous Materials IV), 11-18
CODEN: SSCTDM; ISSN: 0167-2991
PB Elsevier B.V.
DT Journal; General Review
LA English
AB A review. Using anionic surfactants and co-structure directing agents, Che et al., recently reported a novel synthesis approach for mesoporous SiO2 crystals. This method gave rise to a new family of mesoporous materials. Termed anionic surfactant templated mesoporous solids (AMS-n), the structural diversity encountered surpasses conventional cationic and polymeric templated mesoporous materials. Several novel structure types have already been prepared and were resolved using electron crystallog. to derive their porous connectivity. Further synthetic and structural studies conducted on these and related materials reveal the large potential of this preparation method to tailor porous and structural details such as cage size, cage connectivity, and defect concentration More complex structures can easily be imagined and are being realized. Also, these materials offer an excellent playground for the advancement of anal. tools dedicated to the study of porous solids. Within these, electron microscopy (EM) and electron crystallog. (EC) based methods are emerging as the main tool with the capabilities to elucidate all of the necessary details, whether structural or porous to derive fundamental properties of these solids. Here the authors offer a short review of the exciting structural characteristics found in AMS-n and related samples.
RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1129083 CAPLUS
DN 143:393066
TI Oral adsorbents for the treatment of high-phosphorous blood disease
IN Imada, Tomoyuki; Sakamoto, Kazutami; Tatsumi, Takashi; Matsutani, Naomi; Takayanagi, Hiroshi
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 6 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2005289853	A	20051020	JP 2004-105257	20040331
PRAI JP 2004-105257		20040331		

AB Mesoporous silica is orally administered to adsorb phosphoric acid for the treatment of high-phosphorous blood disease. The mesoporous silica is produced from an anionic surfactant, a silicate monomer, and a basic silane.

L3 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:1094653 CAPLUS
DN 143:442870
TI Synthesis of anionic surfactant templated mesoporous silica (AMS)
AU Yokoi, Toshiyuki; Tatsumi, Takashi
CS Dep. Chem. System Eng., Univ. Tokyo, Tokyo, 113-8656, Japan
SO Zeoraito (2005), 22(3), 57-67
CODEN: ZEOREM; ISSN: 0918-7774
PB Zeoraito Gakkai

DT Journal; General Review
LA Japanese
AB A review. The first synthesis of the anionic surfactant templated mesoporous silica (AMS) was achieved. The use of anionic surfactant as a structure-directing agent (SDA) for the formation of the mesostructured silica-micelle composite has been designated as the "S-N+-I-pathway" (S- = anionic surfactant, N+ = cationic functional group, I- = inorg. species) that is promoted by utilization of an organoalkoxysilane containing an amino group such as 3-aminopropyltriethoxysilane (APS) as N+. Since the dissociation constant pKa of the amino group in the conjugate acid of APS is about 10.6 at 298 K, considerable number of amino groups is protonated and so can interact with the anionic surfactant head group, if pH is below about 10. In this case, APS works as a part of SDA. Therefore, we named APS "co-structure directing agent (CSDA)". Recently, we succeeded in synthesizing chiral mesoporous materials by using N-acyl-L-alanine sodium salt as a chiral anionic surfactant with an aminosilane or a quaternized aminosilane as a co-structure-directing agent. The materials show a twisted hexagonal rod-like morphol. with a diameter of 130-180 nm and a length of 1-6 μm. They have one-dimensional chiral channels with a diameter of 2.2 nm and a 2d-hexagonal lattice parameter of 4.4 nm; the existence of a chiral channel in the materials was confirmed by transmission electron microscopy (TEM). The macroscopic morphol. of chiral mesoporous materials was very sensitive to the synthetic parameters, e.g. temperature and agitation period. Elucidation of the formation mechanism of chiral mesoporous silica as well as the control of macroscopic morphol. and handedness of the helix are underway.

L3 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:845166 CAPLUS
DN 143:338321
TI Mesoporous materials having chiral channel
AU Tatsumi, Takashi; Yokoi, Toshiyuki
CS Resour. Chem. Res. Lab., Tokyo Inst. Technol., Yokohama, 226-8503, Japan
SO Kagaku to Kogyo (Tokyo, Japan) (2005), 58(8), 944-946
CODEN: KAKTAF; ISSN: 0022-7684
PB Nippon Kagakkai
DT Journal; General Review
LA Japanese
AB A review, on the success in synthesis of mesoporous silica with spiral chiral channels by using amino acid-type anionic surfactants as templates and amino- or quaternary ammonium group-containing silylating agents. Through TEM images, reflection of the local chirality of the surfactants not only on mesopore structure but also on morphol. can be seen.

L3 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:420792 CAPLUS
DN 144:393756
TI Quiescent non-ionic surfactant assembly of mesoporous materials under basic conditions
AU Wang, Y. M.; Zhu, J. H.
CS Department of Chemistry, Nanjing University, Nanjing, 210093, Peop. Rep. China
SO Studies in Surface Science and Catalysis (2004), 154A(Recent Advances in the Science and Technology of Zeolites and Related Materials), 533-540
CODEN: SSCTDM; ISSN: 0167-2991
PB Elsevier B.V.
DT Journal
LA English
AB For the first time a polymer organized mesoporous silica material with the thick walls and the pores on the border between the micropore and mesopore region is prepared under quiescent and basic conditions, which is based on the homogeneous precipitation of silica due to the

basic hydrolysis of Et acetate. Firstly, the synthetic parameters affecting the mesostructure were investigated. The hydrolysis rate of Et acetate plays the most important role in this procedure, which provides with protons to condensate silica species and controls the rate of silica polycondensation. Higher EtAc/Na2SiO3 ratio, higher ageing temperature than 313 K, or addition of anionic surfactant sodium dodecyl benzene sulfonate as co-surfactant will all result in fast condensation of silica species, which is unfavorable for the formation of mesostructures. And fluoride ions added at aging step has deleterious effect on the formation of the mesostructures because fluoride catalytically accelerates the polycondensation of silica species, while the introduction of fluoride ions during the hydrothermal treatment has a little influence. Finally the samples synthesized by this procedure were characterized by XRD, BET, TG-DSC and SEM.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:420789 CAPLUS
DN 144:393754
TI Synthesis of mesoporous silica by using anionic surfactant
AU Yokoi, Toshiyuki; Yoshitake, Hideaki; Tatsumi, Takashi
CS Division of Materials Science and Chemical Engineering, Graduate school of Engineering, Yokohama National University, Hodogaya-ku, Yokohama, 240-8501, Japan
SO Studies in Surface Science and Catalysis (2004), 154A(Recent Advances in the Science and Technology of Zeolites and Related Materials), 519-527 CODEN: SSCTDM; ISSN: 0167-2991
PB Elsevier B.V.
DT Journal
LA English
AB The first synthesis of mesoporous silica via the S-I+ (S-: anionic surfactant and I+: cationic silicates) pathway using an anionic surfactant has been demonstrated. The S-I- pathway is promoted by utilization of 3-aminopropyltriethoxysilane, an organoalkoxysilane containing cationic functional group, which can interact with the anionic head group. A variety of com. and well-known anionic surfactants such as sodium dodecylbenzenesulfonate, sodium dodecylsulfate and lauric acid sodium salt can be used for the formation of a silica-micelle composite. In this novel pathway, the electrostatic interaction between the pos. charged amino groups in 3-aminopropyltriethoxysilane and the neg. charged sulfate head groups in sodium dodecyl sulfate is a driving force for the self-assembly of the silica-micelle composite. Extraction of the surfactant by acid treatment led to the inorg.-organic hybrid mesoporous silica containing a large amount of aminopropyl groups. Calcination of the silica-micelle composite at 823 K led to the removal of the aminopropyl moieties as well as the surfactant used.

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:411727 CAPLUS
DN 143:104143
TI Nonionic Block Copolymer and Anionic Mixed Surfactants Directed Synthesis of Highly Ordered Mesoporous Silica with Bicontinuous Cubic Structure
AU Chen, Dehong; Li, Zheng; Yu, Chengzhong; Shi, Yifeng; Zhang, Zhendong; Tu, Bo; Zhao, Dongyuan
CS Department of Chemistry, Shanghai Key Laboratory of Molecular Catalysis and Innovative Materials, Fudan University, Shanghai, 200433, Peop. Rep. China
SO Chemistry of Materials (2005), 17(12), 3228-3234

CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Mesoporous silica with Ia.hivin.3d structure has been successfully prepared by using mixed surfactants of com. available nonionic block copolymer P123 (EO20PO70EO20) and anionic sodium dodecyl sulfate (SDS) as structure-directing agents through an acid-catalyzed silica sol-gel process. XRD, TEM, and N2 sorption measurements show that the products have highly ordered bicontinuous cubic mesostructure with high surface area (.apprx.770 m2/g), large pore volume (.apprx.1.5 cm3/g), and uniform pore size (.apprx.10 nm). Effects of preparation parameters on the formation of the mesostructure have been extensively investigated. It is found that the molar ratios of SDS/P123 between 2.1 and 2.5 and that of silicic species to P123 in the range from 40 to 75 are favorable for the formation of highly ordered Ia.hivin.3d mesostructure. Prolonging hydrothermal treatment time leads to almost unchanged cell parameters of the products, whereas there is obvious increase of the pore sizes and pore volume The results show that resultant template-free mesoporous silica products have excellent thermal stability, and they are more stable in N2 atmosphere than in air. Morphologies of the resultant materials can be further controlled by adding inorg. salt (such as Na2SO4) into the mixed surfactants system. Coral- and petaline-like mesoporous silica with continuous skeletons can be obtained. Understanding this synthesis system might be useful for economical and large-scale production of mesoporous materials with controllable structures.
RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2005:70049 CAPLUS
DN 142:320903
TI Micro- and mesoporous silicas synthesized in acidic water-ethanol solution of equimolar catanionic surfactant
AU Wang, Yi Meng; Zhuang, Ting Ting; Cao, Yi; Jiang, Qi; Zhu, Jian Hua
CS Key Laboratory of Mesoscopic Chemistry, Department of Chemistry, Nanjing University, Nanjing, 210093, Peop. Rep. China
SO Journal of Non-Crystalline Solids (2005), 351(4), 346-350
CODEN: JNCSBJ; ISSN: 0022-3093
PB Elsevier B.V.
DT Journal
LA English
AB Porous silicas with combined micro- and mesoporosity are synthesized in acidic water-ethanol solution of equimolar catanionic mixture, where the mesopores are narrowly and uniformly distributed, and the micropores generate due to the addition of ethanol. To vary the pH value of the synthetic mixture can also change the ratio of micro-/mesopores volume in the resulting samples. Compared with other amorphous silica gels and ordered mesoporous silicas including MCM-41, MCM-48 and SBA-15, these micro- and mesoporous silicas show much improved adsorptive capacity for volatile nitrosamines.
RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:1054452 CAPLUS
DN 142:40845
TI method to produce mesoporous silica
IN Tatsumi, Takashi; Yoshitake, Hideaki; Yokoi, Toshiyuki; Che, Shu-nai; Sakamoto, Kazutami
PA Ajinomoto Co., Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent

LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004345895	A	20041209	JP 2003-144187	20030521
	US 2004267038	A1	20041230	US 2003-716427	20031120
PRAI	JP 2003-144187	A	20030521		

AB The mesoporous SiO2 is produced by mixing an anionic surfactant, a silicate monomer, and a basic silane having a general formula of (R1O)3Si-X-NR2R3, where R1-3 are linear- or branched-chain alkyl or H, and X is linear- or branched-chain alkylene. The method synthesizes mesoporous SiO2 having high structural order utilizing the anionic surfactant micelles.

L3 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2004:85668 CAPLUS
DN 140:296296
TI Structural Investigations of AMS-n Mesoporous Materials by Transmission Electron Microscopy
AU Garcia-Bennett, Alfonso E.; Terasaki, Osamu; Che, Shunai; Tatsumi, Takashi
CS Structural Chemistry, Arrhenius Laboratory, Stockholm University, Stockholm, S-10691, Swed.
SO Chemistry of Materials (2004), 16(5), 813-821
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB A novel synthesis route for mesoporous silicates using anionic surfactants was recently reported. It was advanced that materials synthesized using anionic surfactants and aminosilane groups as co-structure directing agents gave highly ordered, novel mesoporous materials with unprecedented structural properties. Here the authors present an in-depth high-resolution TEM (HRTEM) study on the structural characteristics of these novel mesoporous solids denoted AMS-n (anionic mesoporous silicas). These materials show increased order in comparison with conventional mesoporous structures as a result of the long-range periodicity of structural modulations. Structural defects formed in these materials were studied using electron diffraction (ED) and Fourier transform (FT) diffractograms. In addition the authors present a new cubic mesostructure AMS-8 (space group Fd.hivin.3m). These new materials show promising new pore connectivities and morphologies making them ideal for applications ranging from catalysts' supports to gas separation, and from nanodevices to drug delivery.
RE.CNT 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:933556 CAPLUS
DN 140:188103
TI A novel anionic surfactant templating route for synthesizing mesoporous silica with unique structure
AU Che, Shunai; Garcia-Bennett, Alfonso E.; Yokoi, Toshiyuki; Sakamoto, Kazutami; Kunieda, Hironobu; Terasaki, Osamu; Tatsumi, Takashi
CS Faculty of Engineering, Division of Materials Science and Chemical Engineering, Yokohama National University, 79-5 Tokiwadai, Yokohama, 240-8501, Japan
SO Nature Materials (2003), 2(12), 801-805
CODEN: NMAACR; ISSN: 1476-1122
PB Nature Publishing Group
DT Journal
LA English
AB Anionic surfactants are used in greater volume than any other surfactants because of their highly potent detergency and low cost of manufacture However, they have not been used as templates for synthesizing mesoporous silica. Here we show a templating route for

preparing mesoporous silicas based on self-assembly of anionic surfactants and inorg. precursors. We use aminosilane or quaternized aminosilane as co-structure-directing agent (CSDA), which is different from previous pathways. The alkoxysilane site of CSDA is co-condensed with inorg. precursors; the ammonium site of CSDA, attached to silicon atoms incorporated into the wall, electrostatically interacts with the anionic surfactants to produce well-ordered anionic-surfactant-templated mesoporous silicas (AMS). These have new structures with periodic modulations as well as two-dimensional hexagonal and lamellar phases. The periodic modulations may be caused by the coexistence of micelles that differ in size or curvature, possibly owing to local chirality. These mesoporous silicas provide a new family of mesoporous materials as well as shedding light on the structural behavior of anionic surfactants.

RE.CNT 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:871190 CAPLUS
DN 139:397503
TI Synthesis of anionic-surfactant-templated mesoporous silica using organoalkoxysilane-containing amino groups
AU Yokoi, Toshiyuki; Yoshitake, Hideaki; Tatsumi, Takashi
CS Division of Materials Science and Chemical Engineering, Graduate School of Engineering, Yokohama National University, Hodogaya, Yokohama, 240-8501, Japan
SO Chemistry of Materials (2003), 15(24), 4536-4538
CODEN: CMATEX; ISSN: 0897-4756
PB American Chemical Society
DT Journal
LA English
AB Mesoporous silica was prepared by dissolving sodium dodecyl sulfate in a water-ethanol mixture (molar ratio 9:1), adding 3-aminopropyltriethoxysilane and tetra-Et orthosilicate, stirring for 1 h and ambient temperature, and keeping statically at 373 K for 2 days. The resulting white precipitate was filtered, washed in deionized water and dried in air at 373 K. The anionic templating route suggests a structural control by functional groups in inorg. precursors for the formation of mesoporous metal oxides.

RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:867676 CAPLUS
DN 140:188093
TI Investigation of the surfactants in CTAB-templated mesoporous silica by 1H HRMAS NMR
AU Sizun, C.; Raya, J.; Intasiri, A.; Boos, A.; Elbayed, K.
CS Bat 23B, CNRS, Institut de Chimie des Substances Naturelles, Gif sur Yvette, 91198, Fr.
SO Microporous and Mesoporous Materials (2003), 66(1), 27-36
CODEN: MIMMFJ; ISSN: 1387-1811
PB Elsevier Science B.V.
DT Journal
LA English
AB High resolution magic angle spinning (HRMAS) leads to nearly liquid-state quality NMR spectra of mols. with restrained mobility. The authors show here how 1H HRMAS can be applied to organic mols. encapsulated inside mesoporous materials. The authors studied an uncalcined surfactant-templated mesoporous SiO2 synthesized from a mixture of cationic and anionic surfactants, CTAB and HPMSP. The pyrazolone HPMSP is adding cation-extracting properties to the SiO2, which

contains 60% of organic compds. in weight MASNMR at moderate spinning speeds allows to resolve proton spectra on samples where a small amount of MeOH is added to the dried as-synthesized SiO2. NMR expts. allow to distinguish between solvated surfactants involved in ion pairs and less mobile templating surfactants. Liquid state NMR expts. like 2-dimensional NOESY can be performed in these conditions, but suffer from spin diffusion. 1D and 2-dimensional solid-state NMR expts., like rotational resonance, which take advantage of the partly solid-state behavior of the surfactant system, are proposed as alternative expts. to get information about spatial connectivity.

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-20.28	-20.28

STN INTERNATIONAL LOGOFF AT 17:18:12 ON 13 MAR 2007

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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

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NEWS	4	OCT 30	CHEMLIST enhanced with new search and display field
NEWS	5	NOV 03	JAPIO enhanced with IPC 8 features and functionality
NEWS	6	NOV 10	CA/CAplus F-Term thesaurus enhanced
NEWS	7	NOV 10	STN Express with Discover! free maintenance release Version 8.01c now available
NEWS	8	NOV 20	CA/CAplus to MARPAT accession number crossover limit increased to 50,000
NEWS	9	DEC 01	CAS REGISTRY updated with new ambiguity codes

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 NEWS 10  DEC 11  CAS REGISTRY chemical nomenclature enhanced
 NEWS 11  DEC 14  WPIDS/WPINDEX/WPIX manual codes updated
 NEWS 12  DEC 14  GBFULL and FRFULL enhanced with IPC 8 features and
                  functionality
 NEWS 13  DEC 18  CA/CAplus pre-1967 chemical substance index entries enhanced
                  with preparation role
 NEWS 14  DEC 18  CA/CAplus patent kind codes updated
 NEWS 15  DEC 18  MARPAT to CA/CAplus accession number crossover limit increased
                  to 50,000
 NEWS 16  DEC 18  MEDLINE updated in preparation for 2007 reload
 NEWS 17  DEC 27  CA/CAplus enhanced with more pre-1907 records
 NEWS 18  JAN 08  CHEMLIST enhanced with New Zealand Inventory of Chemicals
 NEWS 19  JAN 16  CA/CAplus Company Name Thesaurus enhanced and reloaded
 NEWS 20  JAN 16  IPC version 2007.01 thesaurus available on STN
 NEWS 21  JAN 16  WPIDS/WPINDEX/WPIX enhanced with IPC 8 reclassification data
 NEWS 22  JAN 22  CA/CAplus updated with revised CAS roles
 NEWS 23  JAN 22  CA/CAplus enhanced with patent applications from India
 NEWS 24  JAN 29  PHAR reloaded with new search and display fields
 NEWS 25  JAN 29  CAS Registry Number crossover limit increased to 300,000 in
                  multiple databases
 NEWS 26  FEB 13  CASREACT coverage to be extended
 NEWS 27  Feb 15  PATDPASPC enhanced with Drug Approval numbers
 NEWS 28  Feb 15  RUSSIAPAT enhanced with pre-1994 records
 NEWS 29  Feb 23  KOREAPAT enhanced with IPC 8 features and functionality
 NEWS 30  Feb 26  MEDLINE reloaded with enhancements
 NEWS 31  Feb 26  EMBASE enhanced with Clinical Trial Number field
 NEWS 32  Feb 26  TOXCENTER enhanced with reloaded MEDLINE
 NEWS 33  Feb 26  IFICDB/IFIPAT/IFIUDB reloaded with enhancements
 NEWS 34  Feb 26  CAS Registry Number crossover limit increased from 10,000
                  to 300,000 in multiple databases

 NEWS EXPRESS  NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
 NEWS LOGIN    Welcome Banner and News Items
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 NEWS X25      X.25 communication option no longer available

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FILE 'HOME' ENTERED AT 17:29:28 ON 13 MAR 2007

=> s mesoporous silica complex
THIS COMMAND NOT AVAILABLE IN THE CURRENT FILE
Some commands only work in certain files.  For example, the EXPAND
command can only be used to look at the index in a file which has an
index.  Enter "HELP COMMANDS" at an arrow prompt (=>) for a list of
commands which can be used in this file.

=> file caplus
COST IN U.S. DOLLARS                            SINCE FILE      TOTAL
                                                   ENTRY    SESSION
FULL ESTIMATED COST                                 0.21       0.21
```

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FILE 'CAPLUS' ENTERED AT 17:30:02 ON 13 MAR 2007
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FILE COVERS 1907 - 13 Mar 2007  VOL 146 ISS 12
FILE LAST UPDATED: 12 Mar 2007  (20070312/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply.
They are available for your review at:

http://www.cas.org/infopolicy.html

=> s mesoporous silica complex
         15846 MESOPOROUS
        528571 SILICA
          4020 SILICAS
        528998 SILICA
                  (SILICA OR SILICAS)
       1324951 COMPLEX
        735743 COMPLEXES
       1614373 COMPLEX
                  (COMPLEX OR COMPLEXES)
L1           3 MESOPOROUS SILICA COMPLEX
                  (MESOPOROUS(W)SILICA(W)COMPLEX)

=> s hydrothermal synthesis
         70412 HYDROTHERMAL
             5 HYDROTHERMALS
         70415 HYDROTHERMAL
                  (HYDROTHERMAL OR HYDROTHERMALS)
       1300179 SYNTHESIS
             4 SYNTHESISES
         68975 SYNTHESES
             1 SYNTHESESES
       1338837 SYNTHESIS
                  (SYNTHESIS OR SYNTHESISES OR SYNTHESES OR SYNTHESESES)
L2          6977 HYDROTHERMAL SYNTHESIS
                  (HYDROTHERMAL(W)SYNTHESIS)

=> s L1 and L2
L3           0 L1 AND L2

=> d L1 1-3 bib abs

L1   ANSWER 1 OF 3  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2007:159294  CAPLUS
TI   Macro-mesoporous silicas complex and the
     carbon replica
AU   Sun, Junming; Ma, Ding; Zhang, He; Bao, Xinhe; Weinberg, Gisela; Su,
     Dangsheng
CS   State Key Laboratory of Catalysis, Dalian Institute of Chemical Physics,
     Chinese Academy of Sciences, Dalian, 116023
SO   Microporous and Mesoporous Materials (2007), 100(1-3), 356-360
```

CODEN: MIMMFJ; ISSN: 1387-1811
PB Elsevier B.V.
DT Journal
LA English
AB Novel macroporous silicas with ordered mesoporous wall structures (.apprx.15 nm in pore size) have been synthesized by finely balancing the emulsification of the oil phase with the self-assembly of the amphiphilic block copolymers. The nanocasting method was used to produce hierarchically ordered macro-mesoporous carbon materials. These porous materials have potential applications in catalysis, sorption, separation, etc.

L1 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2006:1240476 CAPLUS
DN 146:12616
TI Mesoporous silica complex powder containing chitosan-lipase conjugates capable of decomposing sebum without skin stimulation, and manufacturing method thereof
IN Kwon, Sun Sang; Jeon, Sang Hoon; Park, Chang Man; Shim, Min Kyung; Nam, Gae Won; Yi, Seung Hwan; Kim, Duck Hee; Chang, Ih Seop; Shon, Jeong Kuk; Kim, Ji Man
PA Amorepacific Corporation, S. Korea
SO Repub. Korean Kongkae Taeho Kongbo, No pp. given
CODEN: KRXXA7
DT Patent
LA Korean
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	KR 2006067294	A	20060620	KR 2004-105553	20041214
PRAI	KR 2004-105553		20041214		

AB Mesoporous silica complex powder containing chitosan-lipase conjugates and a manufacturing method thereof are provided to decompose sebum and reduce skin stimulation by adsorbing fatty acids produced from the sebum decomposition, so that stability of cosmetics on the skin is improved. The method for manufacturing the mesoporous silica complex powder containing chitosan-lipase conjugates comprises the steps of: reacting a multi-functional crosslinking agent with lipase to activate the lipase; conjugating the activated lipase with a water-soluble chitosan medium to prepare the water-soluble chitosan-lipase conjugate; preparing the mesoporous silica having particle size of 1-5 μm, pore size of 7-15 nm and sp. surface area of 900-300m.cxa. 2/g; and mixing the chitosan-lipase conjugate with the mesoporous silica, wherein the weight ratio of silica and chitosan-lipase conjugate is 1:5-10.

L1 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2007 ACS on STN
AN 2003:981886 CAPLUS
DN 141:56004
TI Ti complexes assembled HMS as effective catalysts for epoxidation of alkene
AU Fu, Zaihui; Yin, Dulin; Xie, Qingji; Zhao, Wei; Lu, Aixia; Yin, Donghong; Xu, Youzhi; Zhang, Luxi
CS College of Chemistry and Chemical Engineering, Hunan Normal University, Changsha, 410081, Peop. Rep. China
SO Journal of Molecular Catalysis A: Chemical (2004), 208(1-2), 159-166
CODEN: JMCCF2; ISSN: 1381-1169
PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 141:56004
AB The exchange reactions of Ti compds. and hexagonal mesoporous silica (HMS) supports were studied in detail by UV-Vis diffuse reflection spectroscopy, FT-IR spectroscopy, N2 volumetric adsorption, chemical and elemental analyses. The exchange of TiOiPr4 and TiCl4 with the surface hydroxyls of the HMS proceeded readily and caused distortion of the Si-O4 tetrahedron, as indicated by a new band at 960 cm-1 in the IR spectra. The UV-Vis

diffuse reflection spectra showed highly dispersed Ti species on the surface of HMS. The surface area and pore volume of HMS after Ti exchange were significantly smaller, further confirming the introduction of Ti complexes into the channels of HMS. A chiral Ti tartrate complex was grafted onto HMS through three pathways. In epoxidn. of styrene and cyclohexene with tetra-Bu hydroperoxide (TBHP), the Ti-HMS catalysts showed high catalytic activity and selectivity toward epoxides. The catalyst prepared with TiOiPr4 at 393 K possessed the best catalytic activity, but the lowest selectivity, due to Lewis acid sites which catalyze the rearrangement of epoxides. The assembled catalysts can be recycled over many cycles without significant loss of activity. The HMS catalysts with chiral Ti tartrate complex were enantioselective for asym. epoxidn. of styrene with TBHP, with about 20 - 32% enantiomeric excess in the product yield.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
=> s process
      2392365 PROCESS
      1626581 PROCESSES
L4    3570567 PROCESS
                (PROCESS OR PROCESSES)

=> s L1 and L4
L5          0 L1 AND L4

=> s anionic surfactant
       119969 ANIONIC
          259 ANIONICS
       120072 ANIONIC
                (ANIONIC OR ANIONICS)
       189081 SURFACTANT
       169428 SURFACTANTS
       240370 SURFACTANT
                (SURFACTANT OR SURFACTANTS)
L6      20975 ANIONIC SURFACTANT
                (ANIONIC(W)SURFACTANT)

=> s L1 and L6
L7          0 L1 AND L6

=> s prepn
      2789302 PREPN
       208003 PREPNS
L8    2946052 PREPN
                (PREPN OR PREPNS)
 75% OF LIMIT FOR TOTAL ANSWERS REACHED

=> s l8 and L1
L9          1 L8 AND L1

=> d L9 bib abs

L9   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
AN   2003:981886  CAPLUS
DN   141:56004
TI   Ti complexes assembled HMS as effective catalysts for epoxidation of
     alkene
AU   Fu, Zaihui; Yin, Dulin; Xie, Qingji; Zhao, Wei; Lu, Aixia; Yin, Donghong;
     Xu, Youzhi; Zhang, Luxi
CS   College of Chemistry and Chemical Engineering, Hunan Normal University,
     Changsha, 410081, Peop. Rep. China
SO   Journal of Molecular Catalysis A: Chemical (2004), 208(1-2), 159-166
     CODEN: JMCCF2; ISSN: 1381-1169
```

PB Elsevier Science B.V.
DT Journal
LA English
OS CASREACT 141:56004
AB The exchange reactions of Ti compds. and hexagonal mesoporous silica (HMS) supports were studied in detail by UV-Vis diffuse reflection spectroscopy, FT-IR spectroscopy, N2 volumetric adsorption, chemical and elemental analyses. The exchange of TiOiPr4 and TiCl4 with the surface hydroxyls of the HMS proceeded readily and caused distortion of the Si-O4 tetrahedron, as indicated by a new band at 960 cm-1 in the IR spectra. The UV-Vis diffuse reflection spectra showed highly dispersed Ti species on the surface of HMS. The surface area and pore volume of HMS after Ti exchange were significantly smaller, further confirming the introduction of Ti complexes into the channels of HMS. A chiral Ti tartrate complex was grafted onto HMS through three pathways. In epoxidn. of styrene and cyclohexene with tetra-Bu hydroperoxide (TBHP), the Ti-HMS catalysts showed high catalytic activity and selectivity toward epoxides. The catalyst prepared with TiOiPr4 at 393 K possessed the best catalytic activity, but the lowest selectivity, due to Lewis acid sites which catalyze the rearrangement of epoxides. The assembled catalysts can be recycled over many cycles without significant loss of activity. The HMS catalysts with chiral Ti tartrate complex were enantioselective for asym. epoxidn. of styrene with TBHP, with about 20 - 32% enantiomeric excess in the product yield.
RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
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DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.12	-3.12

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LOGINID:ssptalxn1621

PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

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 NEWS  6  NOV 10   CA/CAplus F-Term thesaurus enhanced
 NEWS  7  NOV 10   STN Express with Discover! free maintenance release Version
                   8.01c now available
 NEWS  8  NOV 20   CA/CAplus to MARPAT accession number crossover limit increased
                   to 50,000
 NEWS  9  DEC 01   CAS REGISTRY updated with new ambiguity codes
 NEWS 10  DEC 11   CAS REGISTRY chemical nomenclature enhanced
 NEWS 11  DEC 14   WPIDS/WPINDEX/WPIX manual codes updated
 NEWS 12  DEC 14   GBFULL and FRFULL enhanced with IPC 8 features and
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 NEWS 13  DEC 18   CA/CAplus pre-1967 chemical substance index entries enhanced
                   with preparation role
 NEWS 14  DEC 18   CA/CAplus patent kind codes updated
 NEWS 15  DEC 18   MARPAT to CA/CAplus accession number crossover limit increased
                   to 50,000
 NEWS 16  DEC 18   MEDLINE updated in preparation for 2007 reload
 NEWS 17  DEC 27   CA/CAplus enhanced with more pre-1907 records
 NEWS 18  JAN 08   CHEMLIST enhanced with New Zealand Inventory of Chemicals
 NEWS 19  JAN 16   CA/CAplus Company Name Thesaurus enhanced and reloaded
 NEWS 20  JAN 16   IPC version 2007.01 thesaurus available on STN
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 NEWS 22  JAN 22   CA/CAplus updated with revised CAS roles
 NEWS 23  JAN 22   CA/CAplus enhanced with patent applications from India
 NEWS 24  JAN 29   PHAR reloaded with new search and display fields
 NEWS 25  JAN 29   CAS Registry Number crossover limit increased to 300,000 in
                   multiple databases
 NEWS 26  FEB 13   CASREACT coverage to be extended
 NEWS 27  Feb 15   PATDPASPC enhanced with Drug Approval numbers
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 NEWS 29  Feb 23   KOREAPAT enhanced with IPC 8 features and functionality
 NEWS 30  Feb 26   MEDLINE reloaded with enhancements
 NEWS 31  Feb 26   EMBASE enhanced with Clinical Trial Number field
 NEWS 32  Feb 26   TOXCENTER enhanced with reloaded MEDLINE
 NEWS 33  Feb 26   IFICDB/IFIPAT/IFIUDB reloaded with enhancements
 NEWS 34  Feb 26   CAS Registry Number crossover limit increased from 10,000
                   to 300,000 in multiple databases

 NEWS EXPRESS  NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT
               MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
               AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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FILE 'HOME' ENTERED AT 08:53:40 ON 15 MAR 2007

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
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http://www.cas.org/ONLINE/UG/regprops.html

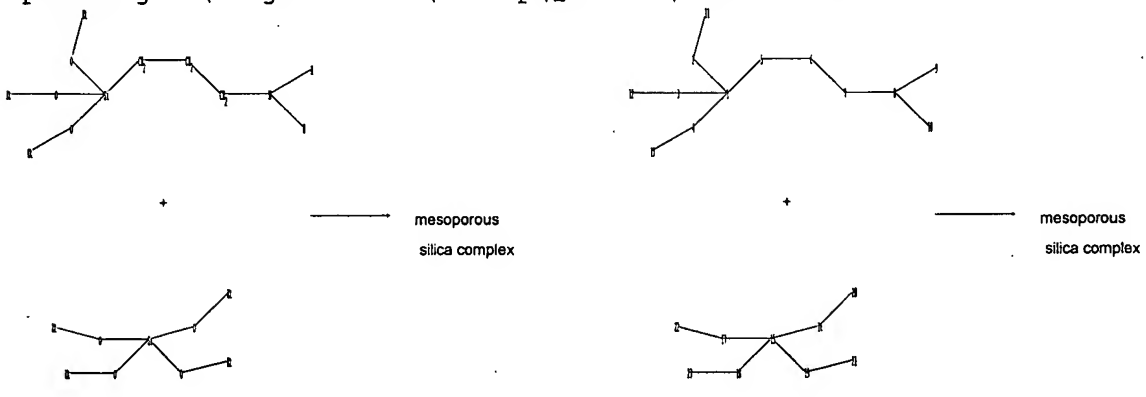
=> ....Testing the current file.... screen

ENTER SCREEN EXPRESSION OR (END):end

=> screen 966 AND 1006

L1 SCREEN CREATED

=>
Uploading C:\Program Files\Stnexp\Queries\10716427.str



chain nodes :
1 2 3 4 5 6 7 8 9 10 11 12 13 15 16 17 18 19 20 21 22 23
chain bonds :
1-2 1-3 1-4 1-5 2-11 3-12 4-13 5-6 6-7 7-8 8-9 8-10 15-16 15-17 15-18
15-19 16-20 17-22 18-23 19-21
exact bonds :
1-2 1-3 1-4 1-5 2-11 3-12 4-13 5-6 6-7 7-8 8-9 8-10 15-16 15-17 15-18
15-19 16-20 17-22 18-23 19-21

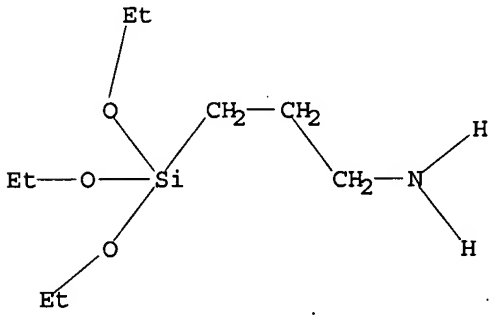
Match level :
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom
11:Atom 12:Atom 13:Atom 15:Atom 16:Atom 17:Atom 18:Atom 19:Atom 20:Atom
21:Atom 22:Atom 23:Atom
fragments assigned reactant/reagent role:
containing 1

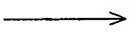
L2 STRUCTURE UPLOADED

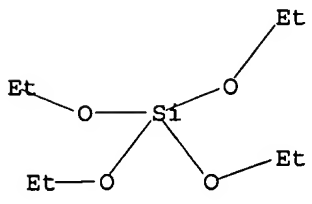
=> que L2 AND L1

L3 QUE L2 AND L1

=> d L2
L2 HAS NO ANSWERS
L2 STR







Structure attributes must be viewed using STN Express query preparation.

=> s L2 full
FULL SEARCH INITIATED 08:54:45 FILE 'REGISTRY'

FULL SCREEN SEARCH COMPLETED - 8248 TO ITERATE

100.0% PROCESSED 8248 ITERATIONS 0 ANSWERS
SEARCH TIME: 00.00.01

L4 0 SEA SSS FUL L2

=>

---Logging off of STN---

=>
Executing the logoff script...

=> LOG Y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	172.55	172.76

STN INTERNATIONAL LOGOFF AT 08:55:01 ON 15 MAR 2007